Medical Pamphlets.

Acromegaly

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A Case of Acromegaly.

BY

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~~INSTRUCTOR~~ IN MATERIA MEDICA, YALE UNIVERSITY, NEW HAVEN, CONN.

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FROM

THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES,

JUNE, 1892.

Reprinted from
The American Journal of the Medical Sciences for June, 1892.

A CASE OF ACROMEGALY.

By O. T. Osborne, M.D.,
INSTRUCTOR IN MATERIA MEDICA, YALE UNIVERSITY, NEW HAVEN, CONN.

The following case of acromegaly has been under my care for the last few months, and is, I believe (November, 1891), the eighth case reported in the United States:

Mr. X., German, aged forty-two years, born in Westphalia, Germany; has lived in America eleven years. The family history is as follows:

The father two years ago was living at the age of eighty years. The mother died at the age of forty-four years, when the patient, Mr. X., was ten years old. Two years before her death she became "paralyzed in the legs," then gradually the arms were paralyzed, and finally, six months before she died, she lost her speech. Two sisters are living in good health at the ages, respectively, of thirty-six and forty-eight years. One brother died of phthisis pulmonalis at the age of twenty-four years. One infant brother died. One sister died at the age of fifty years; cause of death unknown. The father's father died young, of unknown cause. The father's mother's age at death and cause of death unknown. The mother's father died young, of unknown cause. The mother's mother died of old age. The father is about five feet five inches in height. The mother was about five feet seven and a half inches in height and quite stout. The younger living sister is also of good size and stout.

The patient's history of offspring is as follows: His wife's first child was a boy, who lived to be eighteen years old, and died of phthisis pulmonalis about two years ago. He was always a weak child, subject to headache and nose-bleed, and when a young boy had "bad feeling" in his head, and cold applications were frequently applied. When young he was not as bright as other boys. The second child was a boy, and died of croup at three years. The third child was a girl, who died of tuberculosis at one year two months. The fourth, a girl, died at three years, of croup. The fifth, a boy, died of diarrhœa at eighteen weeks. The sixth pregnancy terminated with miscarriage at three months. The seventh and last pregnancy terminated with miscarriage at two months. The wife is and has been in good health.

Mr. X., from the age of fifteen years till the age of twenty-four years had frequently recurring and often severe epistaxis. When he was twenty-two years old he had a very severe and almost fatal hemorrhage from the nose. From the age of twenty-four years until four and one-half years ago the patient suffered no serious impairment of health.

The symptoms during this period of fourteen years were—continuous, gradual enlargement of hands, feet, head, face, and body; occasional

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headache, often severe; occasional dizziness; occasional bone or joint pain; ravenous appetite and often troublesome dyspepsia.

The growth of the body is evidenced by the patient's personal history of facts, and by the facts furnished by his wife. On entering the German army, at the age of nineteen years, he weighed 165 pounds; he now weighs 225 pounds. During the last eleven years, since he has been in America, he has been compelled to buy, year by year, larger and larger hats, shoes, and shirts. His shoes have, during these years, always been procured at one store. Some few years ago he could wear next to the largest size made, then he must get the largest, and now, for the last three years, they must be made to order, as shoes large enough are not kept in stock, and the shoemaker informs me that, since making the last, three years ago, he has had to enlarge it for the comfort of the foot.

A silk cap (which was unfortunately destroyed) worn by him when he came to New Haven, eleven years ago, was tried on by him one year ago, and could be set only on the top of his head. He has also been compelled to buy larger and larger shirts.

During the last ten years he has had more or less tinnitus aurium, but four and one-half years ago the ringing in the ear began to be continuous, and very troublesome. At the same time he also complained of not seeing well, and even had his eyes examined, but nothing abnormal was found.

Soon the pain in his head became constant and very severe, and was always referred to a small spot on the top of the head. The ringing in the ears now became unbearable, especially at night. The head-pain was also much worse at night, and for about one month at this time (four and one-half years ago) he was entirely irresponsible for his actions during the night-time.

His wife was compelled to secrete and lock from him all sharp instruments and all bottles of medicine, as he several times attempted to commit suicide. He also, once or twice during this month, endeavored to choke his child to death. Nevertheless, invariably, as soon as it was light in the morning, his brain seemed to resume proper action, and he would soon go to sleep and rest from the night's wakefulness and activity.

During the day he was very weak, but as soon as night came on he was strong, up, and doing. During the month he complained much of a pressure feeling on the top of his head. Suddenly, after one month of this experience, he ceased to have *continuous* head pain, and was no more deranged at night, and has never been since. At this time the diagnosis of "brain tumor" was given.

From that date, four and one-half years ago, up to the present time he has had constant, never-ceasing ringing in the ears, with gradually increasing deafness, frequent attacks of severe headache, neuralgia in various parts of the body, most frequent and marked on the right side. The pain was referred to back, right thorax, abdomen, right knee, and finger-joints of both hands. For one year after the severe attack of head trouble he was unable to work, but has now, for three years, been working more or less regularly at his trade—machinist. He is, however, becoming more and more incapacitated for work by pain in his head, dizziness, and tinnitus aurium.

He has now been under my care for some months, coming with the

following general symptoms: Severe headache, pain in the right knee, ringing of the ears, irregular appetite, constipation, palpitation of the heart; often eye blurs; must pass urine once or twice every night; profuse perspiration; often dizzy; difficulty in procuring sleep on retiring—in fact, the symptoms are the same as the beginning of the severe head trouble of four and a half years ago.

The patient thinks his face swells in the morning, and also says his hands and right leg swell. No œdema, however, was ever found.

Repeated examinations of the urine have shown varying daily quantities, widely varying specific gravity, occasional small amounts of albumin; never sugar; no sediment other than deposit of urates, and no casts.

Sacral and lumbo sacral pain was often complained of; also pain in the right lateral region of the thorax. He also very graphically describes a frequent nervous ("blood flow," he says) sensation starting from the top of his head and coursing down through his body into his legs, and ending in his feet. He described it as something between an electric shock and a flow of liquid; but upon my suggesting the "rolling of shot" as possibly describing the sensation, he immediately claimed that that was exactly the feeling.

He has now had for several months, gradually growing more frequent, attacks of sharp pain and a peculiar pressure feeling in the top of the head; the pain is referred to the small spot before mentioned, thumb-tip in size, exactly over the region of the anterior fontanelle. The feeling of pressure and pain causes him to grasp for support whatever is within reach, with the positive impression, at each attack, that he is about to die. The feeling of pressure and pain, with dizziness, passes or "spreads over the body and passes off at the feet." At the time of this head pain he often had severe pain in the right side of the nose, a deep-seated pain. Pressure over the region of the anterior fontanelle at all times showed tenderness, and that over a region only of the size of a five-cent piece. Abdominal pain is often complained of—most severe in the hypogastric region, and often referred to the glans penis, though there is no pain on passing urine or modified flow of urine.

The kidneys are, in all probability, slightly damaged. The heart and lungs are normal. Careful examination of the eyes has failed to show anything abnormal, though the retinal vessels are perhaps over-full. He is quite deaf in both ears, but hears best with the right. The ear findings are quite interesting, and for the minute and complete examination of the ear I am indebted to my colleague, Dr. H. L. Swain. His examination and report is all the more valuable, as he saw and examined the ears of the patient three years ago. The right ear is larger than the left, being 13 mm. broader; but the thickness and the distance from the head is the same. The length of the right ear is 73 mm. Since the examination of the ears three years ago, the external auditory canals of both ears have become narrowed antero-posteriorly, and the right more than the left. The general dimensions of the canals are larger than the average. The perpendicular measurement of the canal at the external orifice is 10 mm. The width of the canal, antero-posteriorly, of the right ear is 2 mm.; of the left ear, 6 mm.; the difference being due to the projection forward of the posterior wall of the canal of the right ear from thickening of the cartilage. The cartilaginous canals of both ears remain of the same general shape and dimensions as

above given, until the bony canal is reached, at which point both canals are narrowed perpendicularly. The narrowing of the bony canal in both ears is due to the growth downward of the superior bony wall, amounting in the right ear to an actual exostosis.

In the immediate neighborhood of the drums the canals assume the normal size. The drums are exceedingly concave, so much so that the hammer in the right ear lies almost horizontally. The drums are practically immovable.

The tuning-fork is heard upon the vertex as long in the right ear as it is normally heard upon the mastoid with the ear stopped.

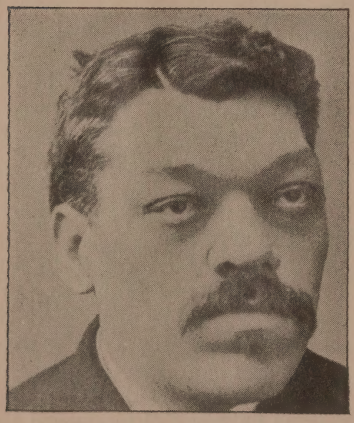
The tinnitus is distinctly hæmic in origin, increasing on excitation, on lying down, and whenever he has one of the "pressure attacks," as previously described, and is often pulsating.

The tinnitus is always referred to the middle of the head.

Dr. Swain states that "it would seem impossible for the hammer to become so drawn up, and the drum to become so concave, as is seen in the right ear during the three years since my first observation, without an active inflammation of the middle ear, of which there have been no symptoms in the last twenty years."

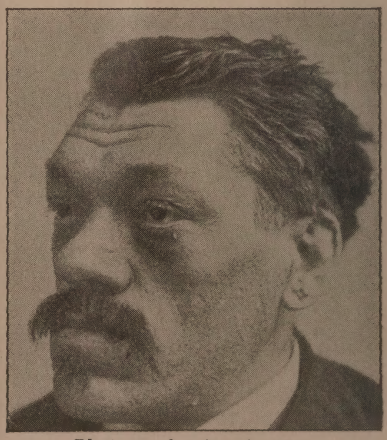
Here we have positive proof of bone-growth, and the excess being on the side which showed the greatest development all over the body, viz., the right side.

FIG. 1.



Photograph taken in 1887.

FIG. 2.



Photograph taken in 1891.

A study of the two photographs showing the face and head, also shows the growth of bone. The first was taken in 1887, and the second at the present time. Had the photograph of four years ago been seen by me earlier, the second photograph would have been taken in the same position. Nevertheless, the difference in degree of the projection forward of the lower jaw, the increased prominence of the frontal eminences and the superciliary ridges, the retraction of the forehead, the increased size of the nose and ears, and the deep furrowing of the superabundant skin and muscle over the forehead of the later photograph, can all be seen.

A few of the measurements are as follows: The height is 1754 mm.

(5 ft. 9 in.); the length of the right foot is 312 mm. (12¼ in.); the length of the left foot is 300 mm. (11¾ in.); the circumference of the right knee is 420 mm. (16½ in.); the circumference of the left knee is 400 mm. (15¾ in.); the circumference of the abdomen is 1093 mm. (43 in.); the circumference of the thorax at the level of the ensiform cartilage is 1144 mm. (45 in.); the circumference of the chest at the nipple line is 1157 mm. (45½ in.); the circumference of the chest under the arms is 1119 mm. (44 in.); the length of the right hand from the tip of the styloid process of the radius to the end of the index-finger is 225 mm. (8¾ in.); the length of the left hand, same measurement, is 222 mm. (8⅝ in.); the circumference of the right hand, exclusive of the thumb (glove measurement) is 280 mm. (11 in.); the same measurement of the left hand is 267 mm. (10½ in.); the distance between the central lower incisors and the central upper incisors when the jaws are tightly closed is 10 mm. (⅜ in.); the circumference of the head around the upper supra-orbital ridges and the occiput is 610 mm. (24 in.); the distance from the angle of the lower jaw to the symphysis is 140 mm. (5½ in.). (All of the above measurements were taken with the tape.)

Fig. 3.

Right hand, palmar surface.

The symptoms and external manifestations of acromegaly present in this case I will give in detail, but I wish at this point to thank Dr. William H. Carmalt for confirming the diagnosis and carefully going over the case with me.

A notable result of acromegaly is seen by a reference to above measurements of the height and length of the right foot. Normally the ratio of the foot to the height is 1.6, while the patient is only 5.6 times the length of the right foot in height.

The right side of the whole body, right hand, right thorax, right knee, and right foot, as seen above, is more enlarged than the left. The

right side has also been the most frequent seat of pain, especially of joint pain. Just underneath the skin, on the right lateral thoracic region, is a small, hard nodule, movable, somewhat tender on pressure, and the seat of quite constant pain. Frequently, also, pain radiates from this nodule downward and over the abdomen, centring in the hypogastric region.

The abnormal bone- and tissue-growth began when the patient was from twenty to twenty-two years of age. He had enormous growth of the hands and feet, both out of all proportion to the growth of the arms and legs, as is seen in the respective photographs of the hand and foot (both right). Palpation of the hands shows a decided bone-growth, as well as hypertrophy of the soft parts. The fingers are "sausage-shaped," *i. e.*, the tip of each finger is as large as the metacarpal end, and the breadth is out of proportion to the length. The joints, especially the last phalangeal joints, are enlarged. The lines in the palm of the hands are greatly accentuated, as so well shown in the photograph. The wrist is but slightly enlarged, and the forearm and arm are apparently not at all enlarged. The feet are very greatly enlarged, and, as before stated, the right is larger than the left. There is a large cushion of flesh along the outer side of the foot, very characteristic of this disease (Marie). The os calcis of each foot; the malleoli, the heads of the fibula and tibia of each leg; the patellæ, especially the right, and the condyle of each femur, are all enlarged. The legs and thighs are not hypertrophied, and the left gastrocnemius muscle seems atrophied.

The thorax is greatly enlarged, the sternum projecting forward at the lower part. The antero-posterior diameter is more increased than the lateral diameter of the chest, and the lower part of the thorax gives a greater circumference than the upper, as is seen in the above measurements, viz., 44 inches in circumference under arms, 45½ inches at nipple line, and 45 inches just below ensiform appendix. The thorax on inspiration moves forward in the peculiar manner described by Marie. The scapulæ and pelvis are enlarged. The knee-joints are enlarged and are the seat of the greatest joint pain, the finger-joints suffering also frequently. The cranium itself does not seem much altered, but the face is elongated, brow low, supra-orbital ridges very prominent. There seems to be a slight exophthalmia. The eyelids are but little hypertrophied. The nose is very much enlarged and broadened, especially marked by a flattening of the cheeks. The cheek bones are fairly prominent. As before stated, the skin of the forehead is redundant and deeply wrinkled. The lower jaw is greatly enlarged, and projects very much forward to the upper jaw, so much so that the upper and lower teeth do not meet until the second molar teeth are reached. The distance, as previously stated, between the central incisor teeth of the upper jaw and the central incisors of the lower jaw is three-eighths of an inch; hence the mastication of the food is difficult and incomplete, and thus causes, or at least augments, the dyspepsia. The lower lip is greatly hypertrophied and everted. The upper lip is not much, if any, enlarged. The tongue is very much hypertrophied. It is much broadened, filling the whole enlarged oral cavity, rendering the speech thick, and with the labials and dentals poorly articulated. The voice is deep, heavy, and loud, denoting an enlarged larynx. The neck is short and thick, sinking the head between the shoulders. The thyroid gland does not seem atrophied. There is scoliosis and kyphosis of the upper dorsal

region of the spine, as is plainly brought out in the photograph. The skin in this case is as yet in good condition, though the thighs are covered with coarse hair.

The scalp-hair is profuse and coarse. Several years ago the appetite was ravenous, but now seems about normal. The sexual appetite is greatly diminished, but the patient is not impotent.

The brain functions are not, as yet, impaired, except possibly a slower mentation and frequent forgetfulness. The so-called "shot-feel" is present, as before described. Sensation of heat and cold apparently normal. The station is normal. The right patella reflex is absent; the left very much diminished.

The severe headache, dizziness, and marked ear symptoms are present. The eyes are not much affected. I find no dulness denoting the persistence of the thymus gland, but the marked projection of the sternum forward, even at its upper part, could easily render the percussion note resonant though a large thymus gland lay more deeply seated.

FIG. 4.

Photograph taken in 1891.

Now, have we in this case the symptoms of an enlarged pituitary body? Yes. The enlarging pituitary gland would naturally tend to press in the direction of the least resistance. The least resistance can be only out of the sella Turcica, either laterally toward the cavernous grooves or upward and forward toward the middle clinoid processes. The excess of pressure in either direction will depend upon the bony environments of the sella Turcica, and in either case the enlarging pituitary body reaches bloodvessels.

If the bone formation of the sella Turcica is such that the first pressure is exerted laterally, the internal carotids and the cavernous sinuses are pressed upon, and the soft-walled sinus is most affected. By this pressure we then have a venous hum in the ears, and, the pressure being continuous, the tinnitus will be continuous. The difference in the inten-

sity of ringing in the ears might be due to an asymmetrical enlargement of the pituitary gland, but is more probably due to the bone formation of the sella Turcica allowing freer passage of the gland on one side than on the other. The middle clinoid process being more prominent on one side than on the other—a frequent condition—the enlarged gland would press more on the opposite bloodvessels. This is probably the condition in this case.

On the other hand, the middle clinoid processes being small, the enlarging pituitary body would come upward and forward and press directly upon the ophthalmic veins and arteries, perhaps more on one side than the other, as before, and would cause a retarded blood-flow in the eye, and consequently more or less prominent eye symptoms, as has been recorded in some cases of acromegaly.

We can, then, account for (omitting the added factor of the concave drum) the dizziness and tinnitus aurium of this case; and very probably the severe head-pain, vertigo, and unbearable ringing of the ears, in the attack of four and a half years ago, was due to first pressure of the enlarged pituitary body on the bloodvessels.

The pituitary gland is very vascular, and this enlarged vascular body would be easily affected by varying blood-pressure in the brain, becoming dilated when the patient assumed a recumbent position, or when he became excited—thus increasing the pressure on the vessels in the cavernous grooves, and *ipso facto* increasing the dizziness and ringing in the ears.

Now, as to the pain in the top of the head, which is referred to by the patient as located in a spot covered by his finger-tip. This point or spot designated as the seat of the severe pain and constant soreness, and increased pain on lying down (when the pituitary body enlarges with the greater amount of blood), is in the exact region of the anterior fontanelle. The anterior fontanelle, on the other hand, is absolutely perpendicular over the sella Turcica and the position of the pituitary gland. Is not this painful spot caused by the direct pressure of the enlarged gland, even allowing for the brain being surrounded by fluid, and hence generally a generalization of pressure?

The ultimate history of this case I hope to be able to watch.

Thus far the treatment has but partially relieved the uncomfortable symptoms. At present I am trying the efficacy of long-continued use of ergot, hoping by it to control some of the brain symptoms.

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A Case of Acromegaly, and Illustrations of Two Allied Conditions.

BY

FREDERICK A. PACKARD, M.D.,
OF PHILADELPHIA.

FROM
THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES,
JUNE, 1892.

Extracted from
The American Journal of the Medical Sciences for June, 1892.

A CASE OF ACROMEGALY, AND ILLUSTRATIONS OF TWO ALLIED CONDITIONS.[1]

By Frederick A. Packard, M.D.,
of Philadelphia.

While the above title represents in a certain way the small series of cases that I desire to report, some further explanation is necessary as to my reasons for grouping, or rather contrasting, them with each other. The first case is one, I take it, of acromegaly proper; the second is an example of the collection of symptoms and signs grouped together by Marie in the *Revue de Médecine* for January, 1890, under the name of "Osteo-arthropathie Hypertrophiante Pneumique;" while the third case, of which mention will be made, is an example of hypertrophy of the pituitary body without any of the changes seen in acromegaly.

The specimens from the latter case are grouped with the two living subjects, from the fact that the pituitary body has been so frequently found to be hypertrophied in acromegaly, and that this case would go to prove, were any proof necessary, that the hypertrophy of the pituitary body is in nowise the cause of that disease, but is merely one of the many other changes found to be present in those cases that have reached the autopsy-table.

The first case that I desire to report is Daniel G., white, aged forty-five years, whom I first saw in 1885, when I was resident in the University Hospital in the ward of Dr. H. C. Wood.

He was admitted to the University Hospital in the spring of 1885, being at the time in a very somnolent condition. From his mother, who accompanied him, it was learned that he had one brother and two sisters, who were healthy and without any trouble similar to that from which he suffers. His father died of "apoplexy" at the age of forty-five years. His mother has since then died of pneumonia at the age of sixty-three years.

Until the age of twenty he worked in an ice cream saloon, then worked on a farm out West for five years, and until ten years before his admission to the hospital (*i. e.*, until 1875) worked in a brass-foundry. He has never had syphilis, and most careful questioning has failed to elicit any history that could possibly point to specific infection. He has used alcohol, but not to an excessive extent. Ever since he can remember he has had large hands and feet; but he admits that his face has increased somewhat in size. When fifteen years old he was "as tall as most men are at twenty-one," and had reached his present length at the former age.

[1] Read at the meeting of the College of Physicians of Philadelphia, January 6, 1892.

In 1877 he had pains all through his body supposed to be rheumatic, for which he was treated by pine-needle baths until an intense and exhausting diarrhœa set in, and he became very much reduced. Since that time he has been unable to work, and has had gradually increasing weakness in his legs, and at times vague pains through his body. He has had three attacks of somnolence—the first lasting for three weeks, the second and third attacks "lasting for a long time." At the time of his admission to the hospital, his mother stated that his brain-power had failed for several years, and that he was apathetic and very irritable, but had had no delusions or convulsions. His face since the onset of his illness was "much swollen."

On May 20, 1885, the following note was made: "Man of large frame, with very white skin. When aroused by being asked a question, he falls asleep again as soon as he has answered. He answers very slowly and deliberately, with a long pause before speech begins. The urine and feces are passed naturally; patellar reflex absent and sensation in feet impaired. Can walk about ward by aid of a cane."

Before this note was made he had had after his admission to the hospital one attack of stupor that subsided, and when the above note was made was just entering upon another spell of somnolence. The urine at that time was negative. This somnolence increased until by May 23, 1885, the note states that he failed to answer questions, and lay with the eyes partly closed.

He was put upon iodide of potassium upon his admission to the hospital, the drug being given in doses of thirty grains three times a day until May 24, when it was doubled in amount.

On May 25, 1885, the eye-grounds were examined, and, according to the notes kept in Dr. Wood's note-book, the optic nerves were found to be atrophic, and there was marked deficiency of capillaries.

On May 27 inunctions of oleate of mercury were added to the treatment with iodide of potassium.

During the summer of 1885 he was given large doses of iodide of potassium and mercury, these being finally discontinued on account of increasing weakness, a tonic and stimulant line of treatment being adopted.

By September, 1885, his mental condition was worse; unconsciousness would appear and remain for days at a time. He gave evidences of suffering from headache at times, even during these periods of apparent unconsciousness. Before and after these attacks he could be frequently seen sitting on the side of the bed, fast asleep, with his fork raised toward his mouth, in which he had deposited a mouthful of food, without having chewed it at all. Upon September 15, 1885, the notes state that he was then in one of these spells, which had begun with vomiting; that he lay perfectly relaxed, and could not be aroused by violent pinching or by exposing the eyes to light.

During October and November, 1885, he improved, and was able to walk to the dining-room and feed himself. He still complained of very intense headache.

In December, 1885, Dr. Norris and Dr. de Schweinitz examined his eyes, and reported that there was partial optic atrophy on both sides with hemianopsia, both temporal fields being lost. (See Fig. 1.)

Upon May 14, 1886, Dr. Reeves examined his nose and reported that he had narrow nostrils, with hypertrophy of the mucous membrane on

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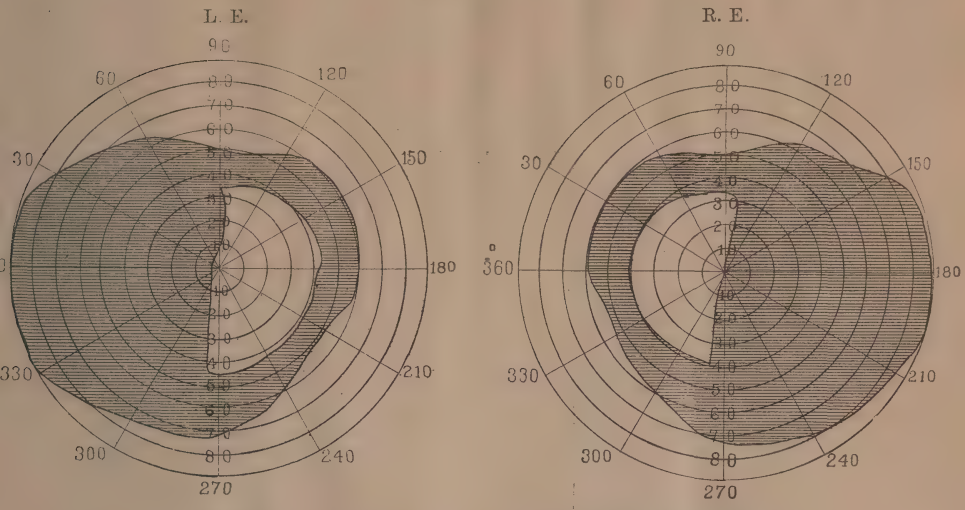
the lower turbinated bones, but no indications of pressure, and that the bony swelling on the outside of the nose did not extend inward.

Until his discharge from the hospital, on November 13, 1886, he suffered from excruciating headaches that were not relieved by any treatment. He was given iodide of potassium and mercury to the point of

FIG. 1.



Visual fields of D. G. Taken at the University Hospital in 1885.

tolerance; a prolonged course of chloride of gold and sodium, tonics, and stimulants; while for his headache potassium bromide, tincture of cactus, caffeine, theine, hyoscine, blisters, and the actual cautery were all tried with little or no benefit.

I saw him again on January 4, 1892, and then made the following notes: Since leaving the hospital in November, 1886, he has constantly had severe generalized headache, with apparently causeless exacerbations. These show no periodicity. There is a constant feeling of weight in the vertex, and every now and then there is an agonizing feeling, as though something were within the skull "scraping away the brain from the inside of the head from before backward." He has had no spells of somnolence since he was seen by me before; on the contrary, he sleeps but little. His general health has been fairly good, but his muscular strength very slight. Cold weather agrees with him better than warm, as during summer he sweats a great deal and feels much oppressed.

He says that his memory is very poor, but he seems to remember readily persons that he saw and events that happened seven years ago. He has had no convulsions. The sense of hearing, taste, and smell are all normal. Vision is very poor, especially with the right eye, and he cannot see with his right eye persons approaching from the right side. For fifteen years he has had no venereal desire or power. His appetite is poor, digestion good, no vomiting. His bowels are inclined to be costive. He gets short of breath rapidly and is tired by walking a few squares. His feet swell a little toward evening. He has no cough.

He is now 6 feet 1½ inches in height and weighs 210 pounds. There is no sign of an excessive amount of adipose tissue. He talks very slowly and deliberately, and is rather lachrymose. His face is very large and heavy, certainly more so than in 1885–86. The accompanying illustrations (Figs. 2 and 3) show the increase in size of the face in twenty-three years. The brain-case is relatively much too small. The forehead slopes strongly backward, the supra-orbital regions being very massive. Breadth of brows, 13.75 cm.; bi-parietal diameter, 16 cm.; occipito-frontal diameter, 21.5 cm.; circumference of head, 61.5 cm. The ears are not disproportionately large. The eyes are relatively small when seen between the thick and heavy eyelids. The nose is very large and almost massive; the malar bones too heavy for the rest of the face. The chin is somewhat prominent, but not very markedly so. The skin of the face is very white, contrasting strongly with his thick black hair. The lips are large, thickened, and of a deep-red color.

Fig. 2.

D. G., at twenty-two years of age.

Fig. 3.

D. G., at forty-five years of age.

The tongue is very large and thick, the mucous membrane thickened, and the surface much furrowed. The teeth are in bad condition, and are very small for the size of his mouth and jaws. The alveolar process of the lower jaw is considerably broadened.

The following report of the condition of the eyes was sent me by Dr. G. E. de Schweinitz, who kindly made the examination for me:

Refractive error, myopia. V in O. D., with correcting lens, equals 6/xxvii; in O. S., with correcting lens, 6/ix. There is rapid vertical nystagmus, and divergent squint of the right eye owing to paresis of the right internal rectus muscle. The double images are fused by a prism of 8°. The pupils are equal in size and react promptly to the changes of light and shade. Careful examination failed to reveal the hemiopic pupillary inaction. Each optic disc is oval, exceedingly gray, its centre containing a shallow cup. There is not much change in the size of the retinal vessels. The lack of capillarity and the atrophic pallor of the disc are most marked upon the right side. The fields of vision are represented in the diagrams (see Fig. 4). The outer lines mark the limit of the normal visual fields; the shading, where vision was lost; and the inner white areas, the extent of the preserved fields.

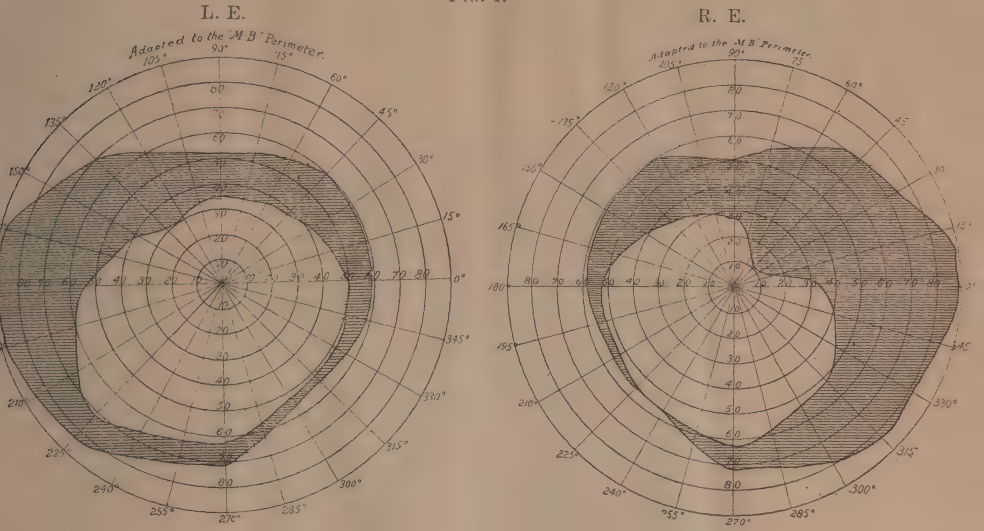
The pharynx is capacious, and there is chronic catarrhal inflamma-

tion of its mucous membrane. The cartilages of the larynx do not seem to be abnormal.

All the cartilaginous portions of the nose are very thick. The large turbinated bones are plainly seen on but moderate separation of the alæ.

The neck measures 40.5 cm. The thyroid gland cannot be felt. There is no dulness over the upper portion of the sternum. The

FIG. 4.



Visual fields of D. G. Taken in January, 1892.

shoulders are sloping and inclined forward. (See Fig. 5.) The scapulæ are prominent but not enlarged. There is a marked forward curve of the upper portion of the spinal column, beginning at the fifth dorsal vertebra, while there is some lumbar lordosis, with corresponding prominence of the abdomen and lower portion of the thorax.

The spinous processes are in a straight line and are not enlarged.

The clavicles have an irregular surface, but as a whole are not enlarged. The chest is very irregular in shape, some ribs being very large, with numerous nodosities on their surfaces. At the junction of the manubrium with the body of the sternum there is a very marked prominence. The sternum measures 23 cm. in length. The xyphoid cartilage is not prominent. The second, fifth, and sixth ribs are *very* prominent, but all of the ribs show roughnesses upon their surfaces. The junctions of the eighth ribs with their costal cartilages show a very marked swelling, plainly visible and palpable. The costo-sternal angle is very oblique.

Examination of lungs and heart negative. Areas of splenic and hepatic dulness normal. There is but little axillary or thoracic hairy development.

The crests of the ilia are not notably enlarged.

The shoulder- and elbow-joints show nothing abnormal. The bones of the arms and forearms do not appear to be altered in any way. The

muscles of these parts are, however, very soft and flabby. The upper arm measures 34.25 cm., the lower 29.9 cm. in length.

The wrists are large but not deformed, measuring 20.25 cm. in circumference, 4.25 cm. in thickness.

The hands are seen to be very large but not deformed; the fingers look stumpy and square at the tips. (See Fig. 6.) The skin of the hands is soft and pliable, and entirely hairless. The nails are stubby and fissured longitudinally. The metacarpal bones are not disproportionately large. Thickness of thenar portion of hand $2\frac{1}{4}$ inches. The breadth of the hand at the level of, and including the distal end of the metacarpal bone of the thumb, is 13.5 cm.; at the level of the

FIG. 5.

D. G., showing marked dorso-cervical kyphosis.

heads of the metacarpal bones of the fingers and excluding that of the thumb the measurement is 10.75 cm. The length of thumb is 7.75 cm., that of the middle finger is 11.5 cm. The circumference of the last phalanx of the thumb is 8.75 cm.; that of the middle phalanx of the middle finger is 7.5 cm.

In the hands temperature, pain, and tactile sense is good Dynamometer registers in the right hand 97, in the left 65. The biceps jerk is present, but not marked.

The thighs and legs are small when compared with the large knees and feet. The knees measure in circumference 42.5 cm., the greater portion being made up by the inner condyles and heads of tibiæ. The distance from great trochanter to internal condyle is 44.5 cm.; that from upper border of patella to external malleolus is 49.5 cm. The patellæ are large but not out of proportion. Patellar tendon reflex absent on both sides.

The feet measure 29.25 cm. in length, 10.75 cm. in breadth at the widest part. The distance between the malleoli is 8 cm. The great toe measures 7.75 cm. in length, 11.5 cm. in circumference. Temperature, pain, and tactile sense in the feet are well preserved.

The urine is acid; sp. gr. 1022; marked albumin reaction with Heller's and the trichlor-acetic acid tests; a slight deposit with picro-citric acid; with heat a marked precipitate that cleared up with the development of a strong red color upon the addition of nitric acid. There was no sugar; no casts, or crystalline deposit.

FIG. 6.

Left hand of D. G., showing stumpy appearance of fingers.

The second case is the example or osteo-arthropathie hypertrophiante pneumique, of which I spoke.

He is a patient in the Episcopal Hospital, and it is through the kindness of Dr. Miller, who is now in charge of the medical wards there, that I am enabled to record the case. He is single, aged twenty-nine years, and was formerly a carpenter. His father is living and healthy; his mother died at the age of fifty-seven years of possible phthisis. One paternal aunt died of phthisis, as did also one maternal aunt. The rest of the family history is entirely negative.

At the age of fifteen years, while working on a farm, he began to have a slight hacking cough and spat up some blood. The cough continued

and he began to have night-sweats. At about this time he noticed that his finger-tips and nails were becoming rounded At the age of twenty-four years he had an attack of "dysentery" which lasted three months. He says that during the attack he had fifteen stools daily, without blood but with much straining. For a year after this attack he ceased coughing, but at the end of that time the cough again set in. During his attack of "dysentery" he is said to have had "hectic fever." At the age of twenty-eight years another attack of "dysentery" began and has lasted ever since, with, however, intervals of freedom. While the bowels are loose expectoration ceases, to begin again when the movements return

FIG. 7.

Portrait of case of osteo-arthropathie hypertrophiante pneumique.

to their normal number. At the close of this second attack of intestinal disturbance his weight had fallen to 108 pounds; but in three months it came up to 167 pounds. As has been said, his finger-tips began to be rounded at the age of fifteen years. He states that at one time, about three years ago, he was able at will to produce dislocation of various joints, notably of the hips and knees. He has had frequent spells of rheumatoid pain in the various joints, and at times his hands are so stiff that he cannot do more than semiflex them. For seven or eight years after his cough began he was stiff in all his joints whenever he attempted to move. About one year ago he had a peculiar attack, in which he

suddenly found that his whole right side, including the face, felt numb; he fell toward the right side and would have fallen had he not been able to obtain support. This attack lasted for five minutes, leaving no prolonged sequelæ, and never being repeated except for a slight transient sense of numbness upon the right side of the face when he has held his head in certain positions.

His back has been bowed from almost the onset of his chest trouble—the cough, clubbing of his fingers, stiffness in the joints, and arching of the back having all been noticed at very nearly the same time. He has never had syphilis, nor has he been addicted to the use of alcohol. He has never had any but a very small amount of sexual desire. Sense of hearing, taste, and smell are normal. States that his memory has been failing for five years; never has headache.

On examination, he is seen to be much bowed, but otherwise would probably attain a fairly good height, it being now five feet seven and one-half inches. He stands with the head thrust forward between his high shoulders. The head is large; the face rather small. The lower jaw is slightly prominent (see Fig. 7), the horizontal ramus measuring four and one-half inches—the angle formed by the two rami being very oblique. The malar bones are somewhat prominent; the ears large and projecting sharply from the skull. The teeth are in good condition, save that many of them have been extracted. The alveolar borders are normal; the tongue is clean. Laryngoscopic examination shows nothing abnormal. The skin of the face is of such color as is seen in those much exposed to the sun, although he has not for many years worked out of doors. The eyes are natural in appearance, the pupils equal and reacting well to both light and accommodation. There is no gross change in the field of vision. The eye-grounds show no pathological changes. The thyroid gland cannot be detected by palpation.

The thorax is markedly bowed at its upper portion, there being marked dorso-cervical kyphosis, of which the most prominent part is composed of the seventh dorsal vertebra. A plumb-line dropped from this point swings four inches clear of the sacrum. There is but a slight development of hair upon the trunk.

The chest is symmetrical, but the right side moves poorly in respiration. The apex-beat is in the normal position, and the area of cardiac dulness occupies the normal extent of surface. At the apex the heart-sounds are normal; at the pulmonary cartilage the second sound is accentuated, as it is also at the aortic cartilage. At the latter point the first sound is replaced by a harsh but not loud rumbling murmur, somewhat inconstant and affected by position. Over the great vessels of the neck there is a to-and-fro rumbling sound, without the characters usually found in vascular murmurs.

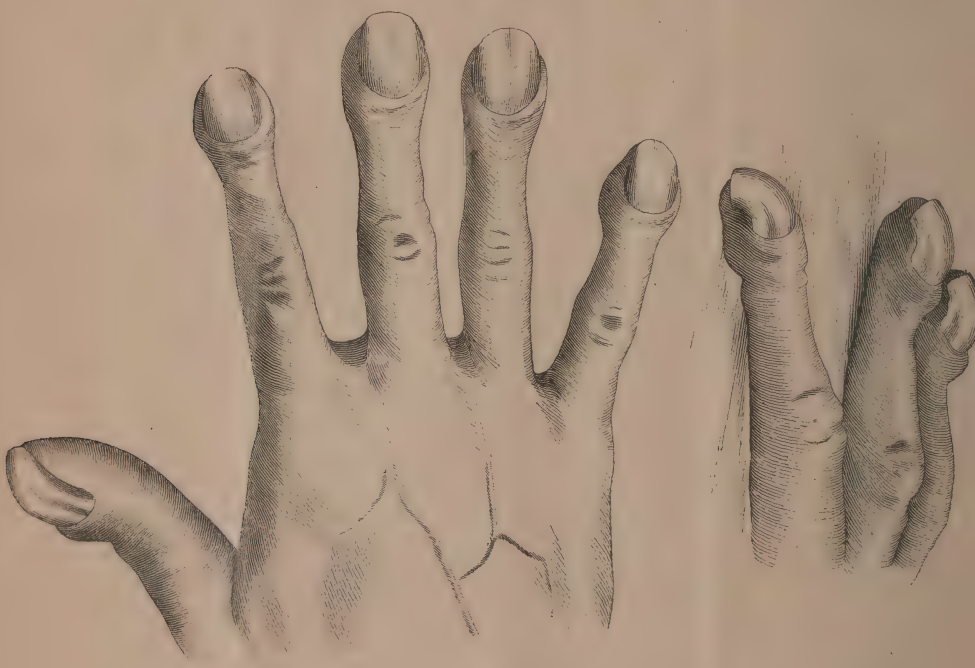
Over the whole left lung there is markedly exaggerated resonance. On the right side anteriorly there is marked dulness with cracked-pot sound in the fourth interspace. Posteriorly, also, there is dulness over the whole right side, except for hyper-resonance above the seventh rib. The breath-sounds on the left side are somewhat puerile; over the right side, as a whole, there are distant, faintly heard, tubular breath-sounds, with cavernous breathing and whispering pectoriloquy anteriorly down to the fourth rib and posteriorly down to the level of the seventh dorsal spine. Posteriorly in this area of cavernous breathing there is also metallic tinkling. Over this area percussion with coins fails to give the

bell-sound. The expectoration is profuse, muco-purulent, of fetid odor, and contains neither bacilli, elastic tissue, nor fatty acid crystals. Over the upper portion of the sternum there is no area of dulness that can be separated from that of the right side of the thorax.

The scapulæ are normal, save that on each side there is a marked bony prominence a little to the inner side of the middle point of the spinous processes.

The shoulders are somewhat large, chiefly from uniform increase in the size of the peripheral extremities of the spinous processes of the scapulæ. There is no limitation in the motion of the shoulders. The upper arm is small, but there is no deformity. The forearms are small, but toward the wrist-joints there is gradual swelling and broadening until the wrists are reached. This swelling is chiefly upon the radial side, and is not very marked. The elbow-joint measures 24.5 cm. in circumference; the wrist-joint, 18.75 cm. in circumference, 7 cm. in breadth, 4.25 cm. in thickness.

Fig. 8.



Hand of case of osteo-arthropathie hypertrophiante pneumique, showing clubbing of ends of fingers.

The hands show a peculiar deformity, almost, if not quite, confined to the last phalanges of the fingers and thumbs. This deformity is symmetrical and the description of one will answer for both: The carpal and metacarpal portions present no abnormality. The accompanying reproduction from a drawing (Fig. 8), kindly made for me by Dr. J. M. Taylor, shows the appearances noted. The fingers are natural until the last phalanges are

reached, when there is seen to be an increase in all the diameters, giving to the fingers the appearance—suggested by Marie—of drum-sticks. The nails are large, strongly curved from side to side and from base to edge. The arcs formed by the nail above and the pad of the finger below give the appearance of the recurved beak of a parroquet. The nails are somewhat waxy, livid, and brittle—one or two of them being longitudinally split. (The man states that he can very readily split the nails by means of a pin.) The nails seem to lie merely upon the surface of the skin, there being no bed, but the edges of the nails reaching to or overlapping the skin surface of the fingers. There is no marked tendency to the production of sweat on the skin covering the dorsal surface of these phalanges, such as has been noted by Marie. This enlargement of the finger-tips seems to be made up by all the tissues, but chiefly by change in the bone. The skin is certainly rather thinner than that covering the rest of the fingers, and there is no evident subcutaneous thickening or induration. The thumbs are affected equally with the fingers. The following measurements were taken:

Middle finger.

Length from metacarpo-phalangeal joint to tip	11.5 cm.
Breadth of middle phalanx	2 "
Breadth of last phalanx	24 mm.
Thickness of middle phalanx	19 "
Thickness of last phalanx	20 "
Length of nail	2 cm.
Breadth of nail	23 mm.

Thumb.

Breadth of first phalanx	23 mm.
Breadth of last phalanx	28 "
Thickness of first phalanx	24 "
Thickness of last phalanx	24 "
Length of nail	25 "
Breadth of nail	29 "
Breadth of hand, excluding thumb	9 c.m.

The hands are weak, the dynamometer registering on the right side 36 K., on the left, 41 K. Sensation is unaltered.

Station is normal with eyes open and closed. The knee-jerks are normal and equal; ankle-clonus cannot be developed.

The feet and legs are so much swollen from œdema (said to have been present for eight years, but to subside on lying down) that no measurements were taken save at the ankle—where, after the serum was displaced, the breadth of the joint, as measured from internal to external malleolus, was found to be 91 mm.—and at the knees, the circumference of which was 39 cm. when the patient was erect. The patellæ are not enlarged, nor is there any bony deformity of the joints. The tibiæ seem large and heavy. The feet are large, but chiefly the last phalanges of the toes, where almost the same appearances are found as in the hands.

The urine contains no sugar; a moderate amount of albumin; no casts or crystalline deposit.

I wish to remark of the third case but little, as its interest lies solely in the pituitary body. The specimen was found at the post-mortem examination of a woman under my charge at St. Clement's Hospital.

She was a white woman, forty-three years of age, single, a native of England. I found her in the ward when I went on duty in the spring of 1891, and obtained the following brief and possibly inaccurate history: Nothing in the family history has any bearing on the case, nor does the history of her past life throw any light upon the etiology of her trouble. For thirteen years she has been blind, this blindness having gradually increased for a long but undeterminable period. For two or three years difficulty in walking progressively increased until absolute inability was attained two months before her admission to the hospital. She complained much of intense pains in the extremities, chiefly nocturnal, with severe but intermitting cephalalgia. There was no trouble with the bladder or rectum.

Examination showed that she was a small, spare, frail-looking woman. Face symmetrical, features small. Pupils equally and widely dilated, not responding to light. Both eyelids drooped, and there was nystagmus, both probably due to blindness. Ophthalmoscopic examination showed marked pallor of the whole eye-ground, with a brilliant white, contracted, sharply-margined disc, and vessels reduced to minute threads. The hands and arms were not paretic. She was absolutely unable to walk, but could feebly move the legs in bed. There was quite marked spasticity in the legs, but no contractures were present. On both sides knee-jerk was very much increased, ankle-clonus was easily obtainable, but no plantar reflex elicited. There was no nerve-trunk tenderness. Sensation in the legs was distinctly impaired.

A diagnosis of multiple syphilitic lesions of the central nervous system was made, and she was put upon ascending doses of the iodide of potassium, with phenacetin p. r. n. for the headaches. She improved decidedly, although slowly, until March 10, 1891, when the right arm became weak, and loss of sensation in the left arm was noticed. The iodide of potassium was then discontinued, inunctions of mercury being substituted. In ten days the gums were affected, but meanwhile the paralysis of the right arm diminished to such an extent that she was able to raise the hand to her mouth. This improvement lasted but a short time, when the power again entirely disappeared in the right arm, and there was added paresis of the left side of the face. Coma then appeared and gradually deepened until she died. There were no convulsions.

Owing to lack of time and poor facilities, the brain, spinal cord, and sciatic nerves alone were examined. The dura mater was slightly thickened. On removal of the brain there was left remaining in the sella Turcica a slate-colored globular mass, evidently an enlarged pituitary body. The pia over the convexity was normal; at the base it was thickened, opaque and whitish in spots. This alteration was most marked in the interpeduncular space, while around the root of the left facial nerve there was a dense white infiltration of the pia. The optic chiasm was flattened from above downward, the optic nerve being very small, while the optic tracts were nearly, if not quite, of normal size. Upon removing the mass in the sella Turcica, the latter was found to be much hollowed out and slightly roughened. The mass itself was globular, measuring between a half and three-quarters of an inch in diameter, and was cystic to the touch. After hardening in Müller's fluid sections were cut and there were found: practically complete atrophy and sclerosis of the optic nerves; sclerosis of the lateral columns of the lumbar and dorsal cord; and hypertrophy of the glandular portion of the pituitary body,

with a few cystic cavities, and some increase of fibrous tissue at the periphery.

As I said at the beginning of this paper, these cases are not reported as in any way related to each other, or as links in a chain, but are placed together because the first two cases illustrate two conditions that were at one time mistaken for each other; while the specimen of hypertrophy of the pituitary body is mentioned, not only because it is a rare lesion, but also because in many of the reported autopsies upon cases of acromegaly a similar condition has been found coincidentally, and because a similar condition in the case of acromegaly here reported would readily explain the hemianopsia formerly present. The change in the fields of vision seen by comparing those taken in 1885 with those of this year is difficult to explain.

In regard to the second case I would venture the opinion that the condition of the right thoracic cavity was due to an old empyema with thickened walls, that had at some former time opened both into a bronchus and into some portion of the intestinal tract, producing the signs presented upon physical examination, the former attacks of diarrhœa, and the peculiar peripheral lesions which Marie is inclined to assign to a poison created in the lung, and selecting the bony and articular portions of the body in a manner analogous to that of the rheumatic poison.

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A CASE OF ACROMEGALY.

—BY—

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WILKES-BARRE, PENNA.

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DR. LONG'S CASE OF ACROMEGALY.

A Case of Acromegaly.

By CHAS. LONG, A. M., M. D., Wilkes-Barre, Penna.

Symptoms which resemble those of this disease have been grouped together as early as the year 1772, by Sancerotti, and since then various observers have published what were probably cases of this affection under the names, myxoedema, gigantism, exophthalmic goitre, etc. Indeed this group of symptoms was not classed together as a distinct morbid entity until the year 1885, when two cases came under the observation of Marie, then chief assistant to Prof. Charcot, who made a special study of the affection and described its typical symptoms. In naming it, he selected its most prominent symptom, "a striking non-congenital hypertrophy of the extremities (hands, feet and cephalic extremity)" and called it Acromegaly (akros extremity, megas, large). Broca describes it as a disease in which "the bones of the extremities and the extremity of the bones are enlarged."

In Brain, July, '89, Marie gives a biographical index of cases which have come under his notice. This includes eighteen (18) cases of undoubted acromegaly, (one of which is Wadsworth's Boston case); four (4) cases, in which details are wanting, but which he classes as acromegaly, and six (6) cases which do not come under the head of acromegaly at all. Since then one European case has been reported by Drs. Holschewinkoff and von Recklinghausen (Virchow's Archiv, January, 1890), and a case is also now under observation in Dublin, but has, as yet, not been reported. In this country the first case reported was by Dr. Wadsworth (Boston Med. and Surg. Journal, January 1, 1885, as a case of myxoedema, but Marie classes it among his eighteen cases of undoubted acromegaly. Adler, of New York (Medicinische Monatschrift, May, 1889), reported a case in a German woman, 34 years of age. The third case was reported by Dr. O'Connor (American Journal of Homeopathy, 1888). The fourth and fifth cases were reported before the Association of American Physicians at the meeting in May, 1890, by Dr. J. E. Graham, of Toronto, and published in the *Medical News*, October 18th, 1890.

As near as can be determined, therefore, from the researches that I have made, the case which I have the honor of presenting to the society this evening is the sixth reported case of Acromegaly in America.

Case.—Matthias M., German, age 48, laborer (until 10 years ago). His father was a strong, healthy man, who never showed signs of any special enlargements and died at the age of 65, after a two days' illness. Patient can give no information about his mother, who died when he was an infant. He has two brothers and three sisters living, and he thinks they are all healthy; at least, they have never presented any abnormality of growth. The patient's growth was normal, nor did he ever suffer from any sickness during his boyhood or youthful days. At the age of 22 years he entered the German army as a cavalryman, and served three years, until he was 25 years old. At the time he must have been healthy or he would not have been accepted as a soldier. During his service he suffered for five weeks with an abscess on the left hip, but fully recovered. In 1870 he emigrated to America, and was then still a well-proportioned man. Soon after his arrival he was married and lived with his wife for fourteen years. The result of this marriage was three children, two of whom died in infancy, the third is a healthy boy, seventeen years old. About twelve years ago he had a serious abscess, on the right hip this time, from which he also fully recovered. He is sure that he has never had any other sickness, and is free from specific taint. During last summer he suffered for several weeks with headache, but never before or since. He has always been more or less constipated. Symptoms of enlargement were first observed, by the patient's wife, in his hands in 1874, when he was 31 years old, and since that period the hypertrophy has been gradually but constantly increasing. The patient is 5 feet 9½ inches in height and weighs 262½ pounds, an increase in weight of seventeen pounds in twelve years.

Present condition.—The skin has a dirty yellow color, is free from eruption and is very loose, so that it can easily be drawn up in folds. The hands, feet and face are very large, out of proportion to the rest of the body. The face has a distinct elliptical shape so characteristic of patients suffering with Acromegaly.

The cranium is normal in size and shape, and covered with a thick, well preserved crop of gray hair. The forehead recedes from very prominent eye-brows. Neither the eye-lids nor the ears are enlarged. The nose is large and broad. The upper lip is not at all enlarged, but the lower lip is very prominent and everted. The cheek bones are prominent, caused probably by the dilations of the maxillary sinus. The lower jaw is enormously hypertrophied and massive, the chin projecting forward, causing a decided prognathism.

The tongue is very large, thick and wide, and always covered with a grayish-yellow coating. Notwithstanding the enlargement of the tongue, articulation is distinct. The neck is short, thick and bulky, and the head is inclined distinctly forward, due to a slight cervco dorsal kyphosis. The larynx is not all enlarged. The thyroid gland is smaller than normal, but both lobes can be felt. The voice is strong, deep and not at all discordant. Indeed the patient can sing quite well.

The hands are very much hypertrophied, especially in their width and thickness. There is hypertrophy of the soft parts as well as of the bones, and this is especially true of the ulnar side of the hand, where there is an excessive amount of soft tissue. The lines in the palm of the hand are very marked. The fingers are characteristically stumpy and sausage shape, thick and rather flat. The joints are large and flat, showing that hypertrophy is more marked at the ends of the bones. Flexion is complete and the patient is able to make a tolerably good fist. The finger nails are broad and short. The wrist is thick and enlarged in proportion to the hand. The fore-arm shows some hypertrophy, but the arm is small in proportion to the hand and fore-arm. The muscles of the upper extremity, and indeed, in all parts of the body are flabby and soft. The hand, wrist, foot and ankle of the right side are slightly larger than those of the left side.

The thorax is very large and bulky, especially deep in its antero posterior diameter. There is distinct flattening on the sides. The clavicle and ribs show marked hypertrophy, especially at their extremities. The ribs are inclined very obliquely downward and forward. The scapula is also enlarged. There is a peculiar depression at the upper end of the sternum and no especial prominence of the xiphoid appendage,

which is so marked in the majority of the reported cases. There is also no retrosternal dulness; the thymus gland is therefore absent. Breathing is natural. Enlargement of the heart cannot be detected. The pulse is small, soft and compressible. The abdomen is decidedly prominent. There is no enlargement of the genital organs. The sexual appetite, never very strong, is now almost entirely absent.

The thighs are not abnormally large, except the hypertrophy at the ends of the femur. The knee joints are very prominent.

In the legs both the soft tissue and the long bones show hypertrophy, but that of the muscles is not very marked.

The feet are very large, the increase in size being especially marked in the thickness and breadth. The patient is also flat-footed. The toe nails, like the finger nails, are broad and short. The cutaneous sensibility is good, the knee reflex is normal and the nervous system shows no abnormal symptoms.

Excepting vision the special senses are all normal. The patient is completely blind and has been in this condition for more than ten years. This is, I believe, the first recorded case of acromegaly where blindness is complete. The following is the ophthalmascopic examination, kindly made for me by Dr. L. H. Taylor:

"Matthias M., aet. 48. Acromegaly, 3, 13, '91. Is now totally blind. Does not distinguish difference between daylight and dark. Cannot distinguish bright lamp held in front of him. Pupils moderately dilated Eye-balls full but not unusually prominent. Left eye, slight divergent strabismus. He has nystagmus of high grade, so that an ophthalmoscopic examination is difficult.

"3, 15, '91. Atropia dropped in diluted pupils and seemed to steady the eye-ball so that an ophthalmoscopic examination could readily be made. Each eye shows chronic optic atrophy, evidently about the same degree in each. Vessels are small and the nerve greenish. Retina not markedly changed. The patient states that he was examined by Dr. Keyser ten years ago for his eye trouble, and pronounced incurable, having, as he states, trouble with the nerve. It is quite possible that the condition of the eye may have been developed independently of the acromegaly, as he has been blind for ten years. He has used tobacco and also alcohol, but he says not to excess.

Schültz (Neurologisches Centralblatt, July, 1889), reports two cases, in one of which the first symptoms of trouble were disturbances of vision ten years before, which in five years developed into complete temporal hemianopsia. At the time the case was reported the patient was completely blind in one eye and nearly so in the other, so that it was probable that a tumor of the pituitary body was present. In Mr. M.'s case there is nothing to indicate a tumor except total blindness, which of course might be due to tumor of the brain, but in such event other symptoms would probably have been manifest."

The patient has the average intelligence for one in his station of life. His appetite for food and drink is not excessive, and patient says this has always been the case.

Urinary analysis was made by Dr. Lathrop, senior resident physician at the city hospital, Urine Sp. Gr. 1028. No albumen. No sugar. Mucus and slight excess of urates were present. The average daily quantity of urine is 52 1-6 oz., but the daily quantity varies from 29 oz. to 84 oz.

In measuring the patient I have followed the plan adopted by Marie, and I have also made use of the metric system, as well as the inch measure, so that comparisou of this patient with others could be made. The measurement of the extremities have all been taken on the left side.

MEASUREMENTS:

Length of hand from lower fold of wrist to end of middle finger . . . . . 210 mm.—8½ in.
Length of middle finger starting from palmar fold to base . 98 mm.—3⅞ in.
Length of middle finger on dorsal aspect, starting from the base of its first phalanx . . . . . 130 mm.—4 7-16 in.
Length of little finger, palmar aspect . . . . . 78 mm.—3 1-16 in.
Circumference of hand without thumb at metarcapal-phalangeal joints. . . . . 265 mm. 10 7-16 in.
Width—ditto . . . . . 120 mm. 4 11-16 in.
Greatest thickness of hand at level of thenar eminence . . 55 mm. 2 3-16 in.
Circumference of middle finger . . . . . 93 mm. 3 11-16 in.
" " thumb . . . . . 96 mm. 3 12-16 in.
" " little finger . . . . . 80 mm. 3 3-16 in.
" " wrist immediately below extremity of ulna and radius . . . . . 220 mm.—7 11-16 in.
Circumference of wrist immediately below styloid proces of ulna . .

. . . . . 218 mm.—7 9-16 in.
Circumference of forearm at middle . . . . . 305 mm.—12 in.
" " arm at middle . . . . . 331 mm.—13 in.
Length from iliac crest to summit of the head of fibula . 552 mm.—21¾ in.
Length from summit of head of fibula to tip of external maleolus . .
. . . . . 430 mm.—17 in.
Vertical diameter of patella . . . . . 70 mm.—2¾ in.
Transverse . . . . . 80 mm.—3 3-16 in.
Circumference of thigh at middle . . . . . 570 mm.—22 7-16 in.
Greatest circumference of calf . . . . . 453 mm.—17 9-16 in.
Circumference immediately above tip of internal maleolus . 330 mm.—13 in.
Greatest length of foot . . . . . 295 mm.—11 10-16 in.
Circumference over heel and instep . . . . . 423 mm.—16 10-16 in.
Greatest circumference of foot . . . . . 319 mm.—12½ in.
Greatest width of foot . . . . . 119 mm.—4 11 16 in.
Circumference of big toe . . . . . 136 mm.—5 5-16 in.
" " little toe . . . . . 75 mm —3 in.
Length from top of forehead to tip of chin . . . . . 257 mm.—10⅛ in.
Length from top of forehead to upper part of nasal bones, 85 mm.—3 5-16 in.
Length from upper part of nasal bones to tip of nose . . 85 mm.—3 5-16 in.
Greatest width of alae nasi . . . . . 46 mm.—1 13-16 in.
Distance from tip of nose to point of junction of latter with upper lip.
. . . . . 35 mm.—1 6-16 in.
Length from septum of nose to point of chin . . . . . 103 mm.—4 1-16 in.
Greatest distance between the outer surfaces of the cheek bones . . .
. . . . . 135 mm.—5 5 16 in.
Width of mouth . . . . . 66 mm.—2 10-16 in.
Vertical measurement of lower lip . . . . . 16 mm.—10-16 in.
Transverse measurement at middle of tongue . . . . . 70 mm.—2¾ in.
Length of one of borders of tongue pulled out as far as possible to the
upper lip . . . . . 70 mm.—2¾ in.
Lower jaw, vertical measurement from free borders of gum to lower
part of symphisis . . . . . 48 mm.—1 14-16 in.
Distance from tempero malar articulation to lower part of symphisis
of chin . . . . . 178 mm.—7 1-16 in.
Distance between the angles of lower jaw . . . . . 131 mm.—5 3-16 in.
Distance between angles of lower jaw with tape measure, along body
of bone passing in front of symphisis . . . . . 275 mm.—10 13-16 in.
Circumference of thorax over nipple . . . . . 1230 mm.—48½ in.
Antero posterior diameter of thorax . . . . . 359 mm.—14⅛ in.
Circumference of neck between hyoid bone and upper part of thyroid
cartilage . . . . . 440 mm.—17 5-16 in.

(Where there was a projecting body between two points of measurement callipers were employed so as to be accurate.)

There have been so few cases of acromegaly reported that it would be difficult to describe all the typical symptoms, no two cases being exactly alike. The elliptical shaped face and the hypertrophy of the hands and feet, however, have been present in every case.

There is a notable absence of subjective symptoms in Mr. M.'s case. He has suffered slightly with headache, has had two abscesses, and has lost the sexual appetite. He is also completely blind; but Dr. Taylor's report would lead us to infer that the blindness is due to causes distinct from the acromegaly, while he recognizes the possibility of its being caused by hypertrophy of the pituitary body.

There is no constant headache, no polydipsia, polyphagia, or polyuria. The thymus gland is not present, and there are no varicose veins; all of which symptoms have been present in the majority of patients.

The etiology of the disease is unknown. Several of the patients have been syphilitics, but whether this has any effect upon the causation of acromegaly is doubtful. There has never been any proof of heredity.

Acromegaly occurs with about the same frequency in both sexes. It first appears between the ages of 20 years and 30 years; is very slow in its progress, lasting 20 or 30 years or more.

Little is known regarding its morbid anatomy. Marie (Brain, July, '89,) in concluding his description of acromegaly says, "That hypertrophy of the pituitary body with enormous dilatation of the sella turcica, persistence of the thymus, and finally hypertrophy of the cord and ganglia of the sympathetic system not only occur with a remarkable degree of frequency, but may even be looked upon as constant."

That these conditions are not always present is proven in the case reported by Fräntzel (Deütsche Medicinische Wochenschrift, '88,) and on which an autopsy was performed a year later by Virchow (Berliner Klinische Wochenschrift, February 4, '89). Virchow noted absence of the thymus gland, and a normal condition of the thyroid and pituitary glands.

Broca (Archives Generales de Medicine, December, '88,) describes the skeleton of one of the original cases of acromegaly by Marie. "The principal change found was an hypertrophied and increased porosity of the bones of the extremities

and enlargement of the channels containing blood vessels. There were also exostoses at the articular extremities of the bones. The inferior maxillary bone was greatly hypertrophied, and all the sinuses in the bones of the skull were dilated."

Diagnosis.—The case presented cannot well be confounded with any of the diseases which resemble Acromegaly.

In myxoedema the soft parts alone are affected. The skin is thickened and scaly, and both it and the subcutaneous cellular tissue present a waxy like condition. The face is round and the mental condition is bad. The skeleton, on the other hand, is unaffected. The symptoms are all absent in the patient presented.

The Leontiasis ossea of Virchow gives rise to bony tumors on the face and cranium, causing a hideous appearance and great deformity.

Osteitis deformans of Paget generally manifests itself after forty years, whereas Acromegaly appears from ten to twenty years earlier. The deformity does not occur symmetrically, as it does in this patient, and hypertrophy affects the long bones in preference to the bones of the extremity and the extremity of the bones. The long bones also present marked deformities. The bones of the cranium also undergo hyperostosis instead of the bones of the face, giving the latter a triangular and not an elliptical shape.

In gigantism all parts are proportionately enlarged, there being no special hypertrophy of the lower jaw, hands and feet.

Marie will not admit that Friedrich's disease, in which hypertrophies occur somewhat similarly to those of Acromegaly, has any connection with this disease, and also will not allow it to be confused with unilateral hypertrophies, which sometimes occur in different parts of the body.

Treatment has had no effect upon the progress of this disease. In the present case there has been no attempt at treatment.

My thanks are due to Dr. G. W. Guthrie for allowing me to observe the patient in the City Hospital; Dr. L. H. Taylor for the ophthalmascopic examination, and Dr. Lathrop, (Resident of the Hospital), for the urinary analysis.

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